

PaperCut | Barclaycard ePDQ e-Commerce – Quick Start Guide

This guide is designed to supplement the *Payment Gateway Module* documentation and provides a guide to installing, setting up and testing the *Payment Gateway Module* for use with *Barclaycard ePDQ e-Commerce module*. The main *Payment Gateway Module* documentation may be downloaded from:

<http://www.papercut.com/files/pcng/ext/payment-gateway/PaymentGatewayModule.pdf>

The Barclaycard ePDQ e-Commerce module is a service provided by Barclaycard Business, a business unit of Barclays Bank. It provides a secure web based card payment site that may be used by many applications within the organization.

Setup and testing should take around 30 minutes. No system level restart is required; however, the PaperCut application server will be restarted during the install process. If other administrators are using the PaperCut administration interface at this time it may be advisable to warn them of the pending restart.

This document is written assuming the reader has good server administration skills and is experienced with general PaperCut administration.

This guide assumes an existing Barclaycard e-Commerce account that has been tested and is successfully processing transactions.

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Stage 1: Configure the Back Office

In the Back Office site, you'll need to configure the technical data about your website.

1. Log in to Back Office using your PSPID credentials:
<https://payments.epdq.co.uk/ncol/prod/backoffice>
2. Select **Configuration > Technical information**.

1.1 Global transaction parameters

1. Click the **Global transaction parameters** tab.
2. Configure the parameters as shown below.

The screenshot shows the 'Global transaction parameters' configuration page in the Back Office. The page has a blue navigation bar at the top with links for Password, Account, Payment methods, Users, Technical information, Template, and Error logs. Below the navigation bar are several tabs: Your technical set..., Global transaction..., Global security pa..., Payment Page, Data and origin v..., Transaction feedb..., Transaction e-mails, and Test info. The 'Global transaction...' tab is selected. The main content area is divided into several sections:

- Default operation code:** Includes radio buttons for 'Sale' and 'Authorisation' (selected). Below are two informational boxes: 'With Barclaycard e-Terminal, the default operation code you configured above will be valid for all transactions.' and 'With Barclaycard eCommerce, Barclaycard Batch, you can overwrite the default operation code configured above by including an operation code in the transaction details.'
- Default data capture (payment) procedure:** Includes an information icon and text: 'The default data capture (payment) procedure is only applicable if you have 'Authorisation' as the default operation code for your account or you included the 'Authorisation' operation code in the transaction details.' Below are radio buttons for 'Data capture by the merchant (manual or automatic)' (selected), 'Automatic data capture by our system at the end of the day', and 'Automatic data capture by our system after 0 days'.
- Payment retry:** Includes text: 'The number of times you allow a customer to attempt the payment on the secure Barclaycard payment pages (with the same or different payment details) within a single order' and a text input field containing '10'.
- Processing for individual transactions:** Includes an information icon and radio buttons for 'Always online (Immediate)' (selected), 'Online but switch to offline when the online acquiring system is unavailable', and 'Always offline (Scheduled)'.
- Default ECI value:** Includes an information icon and text: 'It is vital that the ECI is defined in accordance with your acquirer's specifications. If an incorrect ECI is sent, it could infringe the rules set out in your acquiring agreement.' Below is a dropdown menu showing '7 - E-commerce with SSL encryption'. Below are two informational boxes: 'With Barclaycard eCommerce, the ECI will be determined dynamically depending on the transaction context.' and 'With Barclaycard e-Terminal, Barclaycard Batch, you can overwrite the default ECI value configured above by submitting another ECI value in the transaction details.'

At the bottom of the form is a 'SAVE' button.

3. Click **Save**.

1.2 Global security parameters.

1. Click the **Global security parameters** tab.
2. In **Hash algorithm**, select the appropriate algorithm. The default value is SHA-256.
Note: You must also specify the same value in `barclaycard-epdq.epdq-sha-algorithm` in the `ext-payment-gateway-barclaycard-epdq.properties` file. For

more information, see Stage 5: Installing the Payment Gateway Module (p10).

3. In **Character encoding**, select UTF-8. This option ensures usability without any performance penalties.

4. Click **Save**.

1.3 Payment page

1. Click the **Payment page** tab.

2. Enter the URL of the webpage to display when a user clicks Back.
This URL should be the public IP address of the PaperCut Application Server and must be accessible by end users.

If you are using HTTPS/SSL, then the URL should be:

<https://<externalservname>:9192/app?service=page/ExtnBarclaycardEPDQ>

3. Click **Save**.

1.4 Date and Origin verification

1. Click the **Date and origin** tab.

The screenshot shows the 'Data and origin verification' configuration page. It features a navigation bar with tabs: 'Your technical settings', 'Global transaction parameters', 'Global security parameters', 'Payment Page', 'Data and origin verification' (selected), 'Transaction feedback', 'Transaction e-mails', and 'Test info'. Below the navigation bar, there are two main sections. The first section, 'Checks for e-Commerce', includes an information icon, a text input field with the value 'URL of the merchant page containing the payment form that will call the page: orderstandard.asp', a note stating 'You may enter several URLs, separated by ";"', and a 'SHA-IN pass phrase' section with a text input field containing 'Papercut@1234567890' and a 'HIDE' button. A note below the pass phrase states: 'Please note that the SHA-IN Signature has to be completed, because of the configuration you entered at STEP 1.' The second section, 'Checks for Barclaycard e-Terminal', contains a note: 'When using these transaction submission modes, you have to log into the back office beforehand.' and a 'SAVE' button.

This tab allows you to specify details of the PaperCut URL containing the payment form for security purposes. This is required to send any data to Barclaycard using a payment gateway.

2. In **URL of the merchant page containing the payment form that will call the page: orderstandard.asp**, enter one of the following:
 - `https://<internalservername>:9192/app`
 - `http://<internalservername>:9191/app`

Where:

- **<internalservername>** is the internally accessible name used by users to access the PaperCut web interface. Barclaycard checks this URL to ensure that only users reaching the ePDQ via this URL are allowed. If a user accesses the ePDQ service via any other URL they will be denied access.
3. In **SHA-IN pass phrase**, enter your SHA-IN pass phrase. It must contain:
 - a minimum of 16 characters
 - at least four different characters
 - at least one number or symbol
 - at least one letter
 4. Click **Save**.


Note: You must also specify the SHA-IN pass phrase in `barclaycard-epdq.epdq-passphrase` in the `ext-payment-gateway-barclaycard-epdq.properties` file. For more information, see Stage 5: Installing the Payment Gateway Module (p10).

1.5 Transaction Feedback


1. Click the **Transaction feedback** tab.

e-Commerce


HTTP redirection in the browser

 URL of the webpage to be displayed to the customer after the payment process


Accepturl: displayed when the payment has been authorised, stored, accepted or is waiting to be accepted.




Declineurl: displayed when the acquirer declines the authorization more than the maximum permissible number of times (as defined in the payment retry section of the Transaction tab).





Exceptionurl: displayed when the payment result is uncertain.




Cancelurl: displayed when the customer cancels the payment.



 You can overwrite the default redirection URLs configured above by sending along redirection URLs in the transaction details.

 I would like to receive transaction feedback parameters on the redirection URLs.

 I would like Barclaycard to display a short text to the customer on the secure payment page if a redirection to my website is detected immediately after the payment process.

- In the **HTTP redirection in the browser** area, modify the **Accepturl**, **Declineurl**, **Excepturl**, and **Cancelurl** to:
 - if HTTPS/SSL is used—
https://<externalservername>:9192/app/rpc/gateway/barclaycardepdq/
 - if HTTPS/SSL is not used—
http://<externalservername>:9192/app/rpc/gateway/barclaycardepdq/
- Select the **I would like to receive transaction feedback parameters on the redirection URLs** check box.
- In the **Direct HTTP server-to-server request** area, in **Timing of the request**, enter the following URL in both fields:

http://<externalservername>/rpc/gateway/barclaycard/<security-token>

Where:

- <externalservername>** is the hostname of your PaperCut Application Server
- <security-token>** is a secure token that will be referenced in the payment gateway config file. This security token prevents an attacker from simulating a 'post back', because the secret token is known only to PaperCut and the Barclaycard ePDQ server. It is recommended to use a random string of at least 10 characters, for example, 2ax97bq23n).

Direct HTTP server-to-server request

i Timing of the request

No request.

Always online (immediately after the payment to allow customisation of the response seen by the customer).

i URL of the merchant's post-payment page

If the payment's status is "accepted", "on hold" or "uncertain".

i

If the payment's status is "cancelled by the client" or "too many rejections by the acquirer".

i

Request method

POST

GET

5. In the **Dynamic e-commerce parameters** area, the following parameters are selected by default:
 - NCERROR,PAYID
 - ORDERID
 - STATUS
6. Ctrl-click **AMOUNT** to ensure the default selections are retained.

Dynamic e-Commerce parameters

i This exchange box allows you to select or deselect the parameters you wish to receive as feedback for a transaction and move them from one box to another. Please note that NCERROR, PAYID, ORDERID, STATUS are default parameters and selected as such and cannot be removed.

ACCEPTANCE

AMOUNT

BIC

BIN

BRAND

CARDNO

CCCTY

CN

COLLECTOR_BIC

7. In the **General** area, select both check boxes.

General

i I would like Barclaycard to display a "processing" message to the customer during payment processing.

i I would like Barclaycard to re-launch the "end of transaction" (post-payment request/redirection) process if required.

8. In the **All transaction submission modes** area, in **SHA-OUT pass phrase**, enter a pass phrase. This allows Barclaycard to encrypt the response back to the PaperCut Application Server.

The pass phrase must use:

- Minimum of 16 characters
- At least 4 different characters
- At least one letter
- At least one number or symbol

Note: This pass phrase must also be set in `barclaycard-epdq.epdq-passphrase-out` in the `ext-payment-gateway-barclaycard-epdq.properties` file. For more information, see Stage 5: Installing the Payment Gateway Module (p10).

All transaction submission modes

Security for request parameters

i SHA-OUT pass phrase
.....

HTTP request for status changes

i Timing of the request

No request.
 Only at the time of the order authorisation request.
 For each offline status change (payment, cancellation, etc.).

URL on which the merchant wishes to receive a deferred HTTP request, should the status of a transaction change offline.

9. Click **Save**.

1.6 Transaction e-mails

1. Click the **Transaction e-mails** tab.

← Password | Account | Payment methods | Users | Technical information | Template | Error logs

Your technical... Global transac... Global securit... Payment Page Data and origi... Transaction fe... **Transaction e-...** Test info

E-mails to the merchant

E-mail address(es) for transaction-related e-mails

i You can enter several e-mail addresses, separated by ";".

Receive transaction confirmation e-mails

No
 Yes, but only for e-Commerce transactions.
 Yes, for all transaction submission modes.

i Receive e-mails in the event of offline transaction status changes

No
 Yes, but only at the time of the order authorisation request.
 Yes, for each offline status change (payment, cancellation, etc.).

E-mails to the customer

i Support E-mail address to include in transaction-related e-mails

Support Phone number to include in transaction-related e-mails
 i

I would like Barclaycard to send a transaction confirmation e-mail to the customer.
 I would like Barclaycard to send a transaction confirmation e-mail to the customer at the time of the capture.
 I would like Barclaycard to send a transaction confirmation e-mail to the customer at the time of the refund.

2. Configure the email address and also the type of email notification you want to receive.
3. Click **Save**.

Stage 3: Configuring PaperCut

When a user is sent from the PaperCut 'Add Credit' page to the ePDQ Hosted Payment Page, Barclaycard checks the 'HTTP Referrer' URL (the URL they just came from) and matches it against the 'Allowed URL', configured in Stage 2. Barclaycard supports only one Allowed URL, and it must exactly match the URL the user was sent from.

As users can access the PaperCut web interface via either HTTP or HTTPS, this presents multiple URLs from which a user can be sent to ePDQ, which is not supported by Barclaycard. For this reason, we recommend mandating the use of HTTPS (SSL) for the PaperCut end-user web interface. To force the use of HTTPS for the end-user web interface:

1. In the PaperCut Admin interface, navigate to **Options > Advanced**.
2. In the **Security** area, select the **Use HTTPS/SSL if available** check box.
3. Click **Apply**.

Stage 4: Firewall Configuration

Barclaycard ePDQ communicates with the PaperCut server via HTTP on port 80. You will need to ensure that Barclaycard servers are able to contact the PaperCut server via the internet. This will usually involve the following network changes:

1. Set up a public DNS entry to ensure that the PaperCut server is publicly accessible with a friendly name (e.g. papercut.my.org).
2. Ensure that no other application is using port 80 on the PaperCut server (e.g. IIS or another web server). To verify this, open the command prompt (cmd.exe) and type:

```
netstat -na | more
```

Ensure that port 80 is not in a listening state. That is, the following line should *not* display:

```
TCP 0.0.0.0:80 0.0.0.0:0 LISTENING
```

3. Ensure your firewall allows traffic to port 80 on this server. Methods include adding a 'TCP Open' entry to your firewall and/or using port forwarding.
4. Test and ensure that the following URL is accessible via the public internet:

```
http://<externalservername>/rpc/gateway/barclaycardepdq
```

where:

- <externalservername> is the DNS name set up in Stage 1: Configure the Back Office. Accessing this URL with a web browser should display a simple confirmation message.

Note: Strictly speaking it is not a mandatory requirement to have PaperCut start on port 80. This is a configurable option. An alternate method is to port forward port 80 to port 9191 (the standard PaperCut port).

Stage 5: Installing the Payment Gateway Module

The Payment Gateway Module will function during the PaperCut NG 40 day trial period. After this time the module must be licensed. If you have been supplied with a new license, take the time to install this now. The license installation procedure is documented in the 'Licensing and Support' chapter of the PaperCut user manual.

1. Download the Payment Gateway module installer from the PaperCut website at:
<http://www.papercut.com/files/pcng/ext/payment-gateway/pcng-payment-gateway-module.exe>

2. Run and complete the installer, following the prompts.

3. Open the file:

```
[app-dir]\server\lib-ext\ext-payment-gateway-barclaycard-epdq.properties
```

in a text editor such as WordPad.

4. Locate the line:

```
Barclaycard-epdq.enabled=N
```

and change the **N** to **Y**. This will enable the Barclaycard module.

5. Locate the following lines:

```
barclaycard-epdq.client-id=  
barclaycard-epdq.epdq-passphrase=  
barclaycard-epdq.epdq-passphrase-out=  
barclaycard-epdq.security-token=  
barclaycard-epdq.merchant-name=  
barclaycard-epdq.language=  
barclaycard-epdq.currency-code=  
barclaycard-epdq.epdg-sha-algorithm=
```

- The `client-id` is a number provided by Barclaycard when setting up an ePDQ account. It is also known as a 'PSPID'. Enter this number to the right of the '=' sign.
 - The `epdg-passphrase` is the passphrase chosen in the Barclaycard 'ePDQ Configuration Pages' in 1.4 Date and Origin verification.
 - The `epdg-passphrase-out` is the passphrase chosen in the Barclaycard 'ePDQ Configuration Pages' in 1.5 Transaction Feedback.
 - The `security-token` is the token specified at the end of the 'POST URL' in 1.5 Transaction Feedback.
 - The `merchant-name` is the name of your organization, or any name you wish to appear on the ePDQ Payment Page.
 - The `language` is the language currently offered to the merchants. The default is `en_US` but you can modify it to any language.
 - If using a currency other than Pound Sterling (GBP), locate the line `currency-code`, and replace the value with the desired ISO alpha code (for example, USD). Contact Barclaycard for more information about currency codes and supported currencies.
 - The `epdg-sha-algorithm` is the algorithm specified in 1.2 Global security parameters..
6. Configure the other options in this file as discussed in the *General Configuration Options* section of the *Payment Gateway Module* documentation. Options include limits on the amount to transfer, groups allowed to access the feature, and custom labels.

Further configuration options are available in the global `ext-payment-`

`gateway.properties` file, as described in the *Payment Gateway Module* documentation.

7. Save the file and exit the text editor.
8. Restart the PaperCut Application Server as described in the PaperCut user manual section 'Stopping and Starting the Application Server', and wait approximately 30 seconds for the application server to start up.
9. Open the file:
`[app-dir]\server\logs\server.log`
in a text editor and look for any error messages that may indicate an issue.

Stage 6: Testing

1. Log into PaperCut's end-user interface as a standard user via the one of the following URLs:
 - if SSL is enabled—<https://internalservname:9192/user>
 - if SSL is not enabled—<http://internalservname:9191/user>

A new link titled 'Add Credit' is displayed in the left navigation menu.

2. Click the **Add Credit** link.
3. Select a payment amount; then click **Add Value**.

Add credit using Credit Card

Username	tom
Current Balance	\$0.06
Amount to add	\$5.00 <input type="button" value="v"/>
<input type="button" value="Add Value"/>	

The **Barclaycard ePDQ Payment Page** is displayed. to enter the payment details

4. Either enter the details for a real credit card (the card will be charged the selected amount), or contact Barclaycard for information about using test card numbers (to avoid an actual charge and transaction fees).
5. Fill in the remaining details.
6. Click **Yes, I confirm my payment**.

The following message is displayed *Please wait while your payment is processed*. The user is then redirected back to the **Add credit** page.

Stage 7: Security

A confidential security token (configured in stages 2 and 5) will provide a high level of security, but administrators may wish to take further steps to prevent forged postbacks by filtering requests by IP address. This can be done either at the application level inside PaperCut, at your firewall or both. To apply an IP address based filter in PaperCut:

1. Determine the postback IP address used by Barclaycard ePDQ by inspecting the log file located at:
`[app-path]/server/logs/payment-gateway/event.log`
2. Open the file:
`[app-path]/server/lib-ext/ext-payment-gateway-barclaycard-epdq.properties`
in your preferred text editor (e.g. WordPad).
3. Change the value `barclaycard.allowed-ip=` to the IP address discovered in Stage 1: Configure the Back Office.

Stage 8: Go Live

At this stage the PaperCut Payment Gateway Module has been successfully configured to integrate with Barclaycard ePDQ, and test transactions are working. You can now proceed to provide users with information about how to use the system for adding PaperCut balance with their card.

Troubleshooting

Administrators may find information in the following log files useful when trying to troubleshoot a setup/configuration problem or other issues reporting by end users.

- **Payment Gateway Event Log:**

`[app-dir]\server\logs\payment-gateway\event.log`

this log file contains payment gateway specific error messages and events. Events in this log may be useful in tracking down problems or unexplained events.

- **Application Log:**

`[app-dir]\server\logs\server.log`

this log file contains general application specific error messages and events.

- **Transaction Log:**

`[app-dir]\server\logs\payment-gateway\transaction.log`

this log file contains a list of successful transactions in a tab-delimited form.

Contact your reseller or Authorized Solution Center for assistance. You can find their contact information in your PaperCut Admin interface on the **About** page.